AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application.

1   1-20   (Cancelled).

1   21.   (Currently amended) A method for performing a frequent itemset operation, the
2   method comprising the steps of:
3   performing the frequent itemset operation in a plurality of phases, wherein each phase
4   is associated with combinations that have a particular number of items;
5   during at least one phase of the plurality of phases, performing the steps of
6   determining candidate combinations that are to be evaluated during the phase;
7   grouping the candidate combinations into clusters, wherein each cluster
8   corresponds to a common combination of items, and wherein all
9   candidate combinations in a given cluster include the common
10   combination of items associated with the cluster; ~~and~~
11   processing said candidate combinations, based on said clusters, to determine
12   whether the candidate combinations satisfy a frequency criteria
13   associated with said frequent itemset operation<u>; and</u>
14   <u>storing, in a computer-readable medium, data that indicates which candidate</u>
15   <u>combinations satisfy the frequency criteria associated with said</u>
16   <u>frequent itemset operation.</u>

1   22.   (Currently amended) A computer-readable <u>storage</u> medium carrying one or more
2   sequences of instructions which, when executed by one or more processors, causes
3   the one or more processors to perform the method recited in Claim 21.

1   23.   (Previously presented) The method of Claim 21, wherein the step of grouping the
2   candidate combinations into clusters includes the step of establishing an ordering for
3   said candidate combinations by sorting the candidate combinations relative to each
4   other based on the items within each of the candidate combinations.

1 24. (Currently amended) A computer-readable storage medium carrying one or more
2 sequences of instructions which, when executed by one or more processors, causes
3 the one or more processors to perform the method recited in Claim 23.

1 25. (Previously presented) The method of Claim 23, wherein the step of processing the
2 candidate combinations based on the clusters includes processing the candidate
3 combinations in a sequence based on said ordering.

1 26. (Currently amended) A computer-readable storage medium carrying one or more
2 sequences of instructions which, when executed by one or more processors, causes
3 the one or more processors to perform the method recited in Claim 25.

1 27. (Previously presented) The method of Claim 21, wherein the step of grouping the
2 candidate combinations into clusters includes hashing the candidate combinations
3 into buckets based on the items that the candidate combination contain.

1 28. (Currently amended) A computer-readable storage medium carrying one or more
2 sequences of instructions which, when executed by one or more processors, causes
3 the one or more processors to perform the method recited in Claim 27.

1 29. (Previously presented) The method of Claim 21, wherein the step of processing the
2 candidate combinations includes generating bitmaps for the candidate combinations,
3 and determining how many item groups of an item group population include each
4 candidate combination based on the bitmap for the candidate combination.

1 30. (Currently amended) A computer-readable storage medium carrying one or more
2 sequences of instructions which, when executed by one or more processors, causes
3 the one or more processors to perform the method recited in Claim 29.

1 31. (Previously presented) The method of Claim 29, wherein the step of processing the
2 candidate combinations includes, for each cluster, performing the steps of:
3 generating a bitmap for a particular combination that is a subcombination of all
4 combinations in the cluster;

5   using the bitmap for the particular combination to generate bitmaps for all

6   combinations in the cluster;

7   using the bitmap generated for each combination in the cluster to determine how

8   many item groups include the combination; and

9   after all combinations in the cluster have been processed, discarding from volatile

10   memory the bitmap for the particular combination.

1   32.   (Currently amended) A computer-readable storage medium carrying one or more

2   sequences of instructions which, when executed by one or more processors, causes

3   the one or more processors to perform the method recited in Claim 31.

1   33.   (Previously presented) The method of Claim 21, wherein the step of processing the

2   candidate combinations includes generating bitmaps for the candidate combinations

3   as the candidate combinations are processed in a sequence, the method further

4   comprising the steps of:

5   generating one or more intermediary bitmaps for use in generating of a bitmap for a

6   current candidate combination; and

7   after generating the bitmap for the current candidate combination, retaining in volatile

8   memory only those intermediary bitmaps that are base bitmaps of a next

9   candidate combination in said sequence; and

10   if any intermediate bitmaps are retained, then using one or more of the intermediary

11   bitmaps to generate a bitmap for the next candidate combination in said

12   sequence.

1   34.   (Currently amended) A computer-readable storage medium carrying one or more

2   sequences of instructions which, when executed by one or more processors, causes

3   the one or more processors to perform the method recited in Claim 33.

35. – 40 (Canceled)